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EXAMINER	
DEAN, RAYMOND S	

ART UNIT	PAPER NUMBER
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/698,395	LEGNAIN ET AL.	
	Examiner	Art Unit	
	RAYMOND S. DEAN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") teaches the feature of wherein a first spreading code used to generate a signal by a first of the pair of signal generators is offset by the mutual micro-timing from a second spreading code used to generate a signal by a second of the pair of signal generators (See Page 6, "AABS Concept Overview", since the same PN code is used for each of the three beams there will need to be some kind of offset in order for destructive cancellation not to occur in the overlapping region).

Examiner respectfully disagrees with Applicants' assertion that no reason existed that would have prompted a person of ordinary skill in the art to combine Rotstein and Kuwahara. One of ordinary skill would have been motivated to combine Rotstein with Kuwahara for the purpose of executing processing by a smaller overhead and more efficiently transmitting a pilot signal as taught by Kuwahara thus rendering an improved system in Rotstein.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 – 4, 6 – 7, 9 – 15, and 26 – 28, 30, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rotstein et al. (US 6,909,707) in view of Kuwahara et al. (6,141,335) and in further view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology")

Regarding Claim 1, Rotstein teaches an antenna system for a transmitter comprising: a plurality of antennas defining a respective plurality of fixed beams which together cover a coverage area (Figures 3, 4, Cols. 2 lines 24 – 31); transceiver circuitry coupling the signal generators to the antennas such that a respective one of the signals is transmitted by each antenna, the signals being transmitted substantially simultaneously (Col. 2 lines 24 – 29, typical base stations comprise transceivers);

Rotstein does not teach for each antenna a respective signal generator generating a respective signal comprising a common overhead component common to all the signals and common overhead components transmitted on overlapping beams, for each antenna a respective signal generator generating a respective signal using a spreading code common to all the signal generators, for each pair of antennas having overlapping beams within said coverage area, the respective pair of signal generators

using the spreading code with a mutual micro-timing offset that is large enough that destructive cancellation substantially does not occur between the signals transmitted on the overlapping beams, wherein a first spreading code used to generate a signal by a first of the pair of signal generators is offset by the mutual micro-timing from a second spreading code used to generate a signal by a second of the pair of signal generators.

Kuwahara, which also teaches a wireless system wherein the base station transmits a plurality of beams, teaches a respective signal comprising a common overhead component common to all the signals and common overhead components transmitted on overlapping beams (Col. 7 lines 6 – 10, lines 33 – 37, the pilot common the signals and transmitted in overlapping beams).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the CDMA system of Rotstein with the common overhead component of Kuwahara for the purposes of executing processing by a smaller overhead and more efficiently transmitting a pilot signal as taught by Kuwahara.

Martinez-Munoz, which also teaches a wireless system wherein the base station transmits a plurality of beams, teaches for each antenna a respective signal generator generating a respective signal using a spreading code common to all signal generators (See Page 6, "AABS Concept Overview", the same PN code is used for each of the three beams, which are produced by signal generators), for each pair of antennas having overlapping beams within said coverage area, the respective pair of signal generators using the spreading code with a mutual micro-timing offset that is large enough that destructive cancellation substantially does not occur between the signals

transmitted on the overlapping beams, wherein a first spreading code used to generate a signal by a first of the pair of signal generators is offset by the mutual micro-timing from a second spreading code used to generate a signal by a second of the pair of signal generators (See Page 6, "AABS Concept Overview", since the same PN code is used for each of the three beams there will need to be some kind of offset in order for destructive cancellation not to occur in the overlapping region).

It would have been obvious to one of ordinary skill in the art at the time the invention was made modify the system of Rotstein in view of Kuwahara with the above feature of Martinez-Munoz for the purpose of increasing sector capacity.

Regarding Claim 2, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claim 1. Rotstein further teaches implemented for a plurality of coverage areas, each coverage area being a respective sector served by the base station, wherein the plurality of fixed beams together cover a corresponding one of the sectors (Col. 2 lines 24 – 30).

Rotstein in view of Kuwahara does not teach wherein the sectors are associated with respective different spreading codes.

Martinez-Munoz, which also teaches a wireless system wherein the base station transmits a plurality of beams, teaches wherein the sectors are associated with respective different spreading codes (See Page 6, "AABS Concept Overview", there are three beams per sector with a particular PN code used by all three beams thus rendering a scenario wherein the three beams in another sector use a different particular PN code).

It would have been obvious to one of ordinary skill in the art at the time the invention was made modify the system of Rotstein in view of Kuwahara with the above feature of Martinez-Munoz for the purpose of increasing sector capacity.

Regarding Claims 3, 4, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claims 1, 2. Rotstein further teaches wherein the transmitter is a CDMA base station, and each signal is a CDMA signal (Col. 2 lines 24 – 30).

Regarding Claim 6, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claim 4. Rotstein further teaches the sector having a sector-specific spreading code, and wherein the respective mutual micro-timing offset between each pair of CDMA signals is realized by applying the sector-specific spreading code with a respective mutual micro-timing offset (Figure 3, Col. 2 lines 24 – 53, the PN code is the spreading code, the same PN code is used but there is a different timing offset, the offset assignments are chosen far enough apart to avoid interference).

Regarding Claims 7, 14, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claims 6, 12. Rotstein further teaches a PN code (Col. 2 lines 24 – 42).

Regarding Claim 10, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claim 4. Rotstein further teaches wherein the respective mutual micro-timing offset is small enough that substantially no signal source ambiguity occurs at a receiver in respect of any pair of

signals transmitted by adjacent antennas (Col. 2 lines 24 – 53, there will be no ambiguity at the mobile receivers due to the offset in time to avoid the overlap).

Regarding Claim 11, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claim 10. Rotstein further teaches wherein the short codes is of length 2^15-1 (Col. 2 lines 24 – 42, this is the standard length for PN codes used in CDMA systems).

Regarding Claims 12, 13, 27, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claims 4, 26. Rotstein further teaches wherein the sector has a sector-specific spreading code, and wherein the respective micro-timing offset between each pair of CDMA signals is realized by applying the sector-specific spreading code and then applying a mutual micro timing offset to respective sector-specific code generators (Figure 3, Col. 2 lines 24 – 53).

Regarding Claim 15, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claim 4. Kuwahara further teaches at least one of pilot channel, sync channel, paging channel, quick paging, advanced access channel and auxiliary pilot (Col. 7 lines 6 – 10, there are pilots thus there will be a pilot channel).

Regarding Claim 26, Rotstein teaches a method in a CDMA antenna system comprising transmitting, from antennas of the antenna system, signals on a plurality of beams within a sector ((Figures 3, 4, Cols. 2 lines 24 – 31)), wherein the plurality of beams are transmitted in the sector that is from among plural sectors of a cell (Figure 3, Col. 2 lines 24 – 53)

Rotstein does not teach transmitting signals each having a common overhead component and common overhead components on the adjacent overlapping beams, a micro-timing offset of a spreading code used by the signals transmitted on adjacent overlapping beams wherein the micro-timing offset is large enough that destructive cancellation substantially does not occur between the adjacent overlapping beams, wherein a first spreading code used to generate a signal on a first of the overlapping beams is offset by the micro-timing offset from a second spreading code used to generate a signal on a second of the overlapping beams

Kuwahara, which also teaches a wireless system wherein the base station transmits a plurality of beams, teaches a respective signal comprising a common overhead component common to all the signals and common overhead components transmitted on overlapping beams (Col. 7 lines 6 – 10, lines 33 – 37, the pilot common the signals and transmitted in overlapping beams).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the CDMA system of Rotstein with the common overhead component of Kuwahara for the purposes of executing processing by a smaller overhead and more efficiently a pilot signal as taught by Kuwahara.

Martinez-Munoz, which also teaches a wireless system wherein the base station transmits a plurality of beams, teaches a micro-timing offset of a spreading code used by the signals transmitted on adjacent overlapping beams wherein the micro-timing offset is large enough that destructive cancellation substantially does not occur between the adjacent overlapping beams, wherein a first spreading code used to

generate a signal on a first of the overlapping beams is offset by the micro-timing offset from a second spreading code used to generate a signal on a second of the overlapping beams (See Page 6, "AABS Concept Overview", since the same PN code is used for each of the three beams there will need to be some kind of offset in order for destructive cancellation not to occur in the overlapping region).

It would have been obvious to one of ordinary skill in the art at the time the invention was made modify the system of Rotstein in view of Kuwahara with the above feature of Martinez-Munoz for the purpose of increasing sector capacity.

Regarding Claim 28, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claim 1. Rotstein further teaches wherein the plurality of fixed beams defined by the corresponding plurality of antennas together cover a sector from among plural sectors of a cell (Figure 3, Col. 2 lines 24 – 53).

Regarding Claims 30, 31, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claims 1, 26. Martinez-Munoz further teaches wherein the first spreading code is the spreading code common to all the signal generators, and the second spreading code is offset from the first spreading code by the mutual micro-timing offset (See Page 6, "AABS Concept Overview", since the same PN code is used for each of the three beams there will need to be some kind of offset in order for destructive cancellation not to occur in the overlapping region).

4. Claims 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rotstein et al. (US 6,909,707) in view of Kuwahara et al. (6,141,335) in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology"), as applied to Claim 4 above, and further in view of Wong et al. (US 6,330,460)

Regarding Claim 16, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claim 4. Rotstein in view of Kuwahara and in further view of Martinez-Munoz does not teach for each active user located within the sector, at a given instant only one of the CDMA signals includes a user-specific traffic component generated by the respective CDMA signal generator

Wong further teaches for each active user located within the sector, at a given instant only one of the CDMA signals includes a user-specific traffic component generated by the respective CDMA signal generator (Col. 11 lines 11 – 30, different numbers of mobiles such as one mobile can request traffic data).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rotstein in view of Kuwahara and in further view of Martinez-Munoz with the above traffic feature of Wong for the purpose of yielding the highest overall aggregate data throughput as taught by Wong.

Regarding Claim 17, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claim 4. Rotstein in view of Kuwahara and in further view of Martinez-Munoz does not teach wherein the one of the CDMA signals to include the user-specific traffic component for a given user

is identified by analyzing signal strength on reverse links from the user, and selecting the CDMA signal corresponding with the reverse link having a best signal strength

Wong further teaches wherein the one of the CDMA signals to include the user-specific traffic component for a given user is identified by analyzing signal strength on reverse links from the user, and selecting the CDMA signal corresponding with the reverse link having a best signal strength (Cols. 8 lines 21 – 25, 11 lines 11 – 30, in order to determine the angular position the signal strength of the reverse link must be measured, determining the angular position enables the beam forming for the purposes of transmitting traffic data).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rotstein in view of Kuwahara and in further view of Martinez-Munoz with the above traffic feature of Wong for the purpose of yielding the highest overall aggregate data throughput as taught by Wong.

5. Claims 5, 8, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rotstein et al. (US 6,909,707) in view of Kuwahara et al. (6,141,335) in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology"), as applied to Claims 4, 7, 26 above, and further in view of Neufield et al. (US 6,922,435).

Regarding Claims 5, 29, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claims 4, 26. Rotstein in view of Kuwahara and in further view of Martinez-Munoz does not teach wherein the

respective mutual micro-timing offset is less than a predefined maximum value such that the mutual micro-timing offset does not cause a source of one of the signals to be incorrectly identified as located in another cell sector.

Neufield teaches wherein the respective mutual micro-timing offset is less than a predefined maximum value such that the mutual micro-timing offset does not cause a source of one of the signals to be incorrectly identified as located in another cell sector (Col. 9 lines 45 – 58, the separation can be less than eight chips and at least one chip such as 4 chips thus enabling correct signal identification).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rotstein in view of Kuwahara and in further view of Martinez-Munoz with the above method of Neufield for the purpose of quickly and efficiently generating PN sequences at various phases for the purpose of searching for strong multipaths from a particular base station as taught by Neufield.

Regarding Claim 8, Rotstein in view of Kuwahara and in further view of Martinez-Munoz teaches all of the claimed limitations recited in Claim 7. Rotstein in view of Kuwahara and in further view of Martinez-Munoz does not teach at least one chip and less than eight chips.

Neufield teaches at least one chip and less than eight chips (Col. 9 lines 45 – 58, the separation can be less than eight chips and at least one chip such as 4 chips).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rotstein in view of Kuwahara and in further view of Martinez-Munoz with the above method of Neufield for the purpose of quickly

and efficiently generating PN sequences at various phases for the purpose of searching for strong multipaths from a particular base station as taught by Neufield.

6. Claims 18 and 21 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rotstein et al. (US 6,909,707) in view of Kuwahara et al. (6,141,335) in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology"), as applied to Claim 1 above, and further in view of Kapoor et al. (US 6,795,424).

Regarding Claim 18, Rotstein in view of Kuwahara and in further view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") teaches all of the claimed limitations recited in Claim 1. Rotstein in view of Kuwahara and in further view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology")does not teach wherein the transceiver circuitry is further adapted to provide transmit frequencies in a manner such that the transmit frequencies include a frequency offset from one another.

Kapoor teaches wherein the transceiver circuitry is further adapted to provide transmit frequencies in a manner such that the transmit frequencies include a frequency offset from one another (Cols. 6 lines 41 – 47, 10 lines 58 – 60, 15 lines 19 – 29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the CDMA system of Rotstein in view of Kuwahara and in further view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS

Smart Antenna Technology") with the transceiver circuitry of Kapoor as an alternative means of suppressing interference as taught by Kapoor.

Regarding Claim 21, Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") and in further view of Kapoor teaches all of the claimed limitations recited in Claim 18. Kapoor further teaches wherein the frequency offset is chosen to further reduce undesirable effects of signal cancellation (Cols. 6 lines 41 – 47, 10 lines 58 – 60, 15 lines 19 – 29).

Regarding Claim 22, Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") and in further view of Kapoor teaches all of the claimed limitations recited in Claim 18. Wong further teaches wherein the signals have unique traffic channels (Col. 11 lines 11 – 30).

Regarding Claim 23, Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") and in further view of Kapoor teaches all of the claimed limitations recited in Claim 22. Kapoor further teaches wherein the offset frequency is a multiple other than that of a frame rate (Col. 10 lines 58 – 60, the frequency of the tone interferer and the bin can be a plurality of values thus the frequency offset can be a plurality of values and thus a multiple other than a frame rate).

Regarding Claim 24, Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") and in further view of Kapoor teaches all of the claimed limitations recited in Claim 18.

Kapoor further teaches wherein the frequency offset is greater than 30 Hz and less than 120 Hz (Col. 10 lines 58 – 60, the frequency of the tone interferer and the bin can be a plurality of values thus the frequency offset can be a plurality of values).

7. Claims 19 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rotstein et al. (US 6,909,707) in view of Kuwahara et al. (6,141,335) in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") in view of Kapoor et al. (US 6,795,424) as applied to Claim 18 above, and further in view of Zhao (US 6,463,303).

Regarding Claim 19, Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") and in further view of Kapoor teaches all of the claimed limitations recited in Claim 18.

Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") and in further view of Kapoor does not teach a beam-forming matrix connected to the plurality of antennas.

Zhao teaches a beam-forming matrix connected to a plurality of antennas (Col. 4 lines 43 – 47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") and in further view of Kapoor with the beam forming matrix as an alternative means for creating multiple beams.

Regarding Claim 20, Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") in view of Kapoor and in further view of Zhao teaches all of the claimed limitations recited in Claim 19. Zhao further teaches a Butler matrix (Col. 4 lines 43 – 47).

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rotstein et al. (US 6,909,707) in view of Kuwahara et al. (6,141,335) in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology"), as applied to Claim 1 above, and further in view of Benning et al. (US 2003/0022635).

Regarding Claim 25, Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") teaches all of the claimed limitations recited in Claim 1. Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of AABS Smart Antenna Technology") does not teach means in the transceivers for providing transmit phases that include a time dependent phase offset from one another, wherein the phase offset is chosen to reduce undesirable effects of signal cancellation.

Benning teaches providing transmit phases that include a time dependent phase offset from one another, wherein the phase offset is chosen to reduce undesirable effects of signal cancellation (Section 0012).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the diversity method of Benning in the system of Rotstein in view of Kuwahara in view of Martinez-Munoz ("Nortel Networks CDMA Advantages of

AABS Smart Antenna Technology") as an alternative means for providing improved received signal statistics and performance as taught by Benning.

Allowable Subject Matter

9. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to teach or render obvious: **wherein each mutual micro-timing offset is less than half a width of a traffic search window implemented in a mobile terminal communicating with the transmitter**

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND S. DEAN whose telephone number is (571)272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond S Dean/
Examiner, Art Unit 2618
Raymond S. Dean
May 21, 2010